

APPLICANT: EITAN, Boaz
SERIAL NO.: 09/966,754
FILED: October 1, 2001
Page 2

AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. (Currently amended) A method of fabricating an oxide-nitride-oxide (ONO) layer in a memory cell, said method comprising:
 - forming a bottom oxide layer on a substrate;
 - depositing a nitride layer; and
 - oxidizing a top oxide layer, thereby causing oxygen to be introduced into substantially all of said nitride layer within said memory cell, so as to restrict lateral movement of charge ~~enhance charge localization~~ within said nitride layer.
4. (Currently amended) A method for improving the charge retention in a nitride layer of a memory cell, said method comprising:
 - depositing a nitride layer; and
 - introducing oxygen into substantially all of said nitride layer within said memory cell, so as to restrict lateral movement of charge ~~enhance charge localization~~ within said nitride layer.
5. (Currently amended) A method for improving the charge retention in a nitride layer of a memory cell, said method comprising:
 - depositing a nitride layer;
 - controlling the thickness of said deposited nitride layer; and
 - introducing oxygen into substantially all of said nitride layer within said memory cell, so as to restrict lateral movement of charge ~~enhance charge localization~~ within said nitride layer.
7. (Currently amended) A method of manufacturing a programmable, read only memory device, the method comprising:
 - forming a first oxide layer on a substrate,

APPLICANT: EITAN, Boaz
SERIAL NO.: 09/966,754
FILED: October 1, 2001
Page 3

forming a nitride layer on top of said oxide layer, wherein said nitride layer is 150 angstroms or less thick;

introducing oxygen into substantially all of said nitride layer within a memory cell during formation of a second oxide layer on top of said nitride layer, so as restrict lateral movement of charge ~~enhance charge localization~~ within said nitride layer;

patterning said oxide-nitride-oxide (ONO) layers into desired patterns; and forming a gate layer over said patterned ONO layer.

8. (Previously presented) A method according to claim 7 and wherein said first oxide layer is approximately 50--150 angstroms thick.

9. (Previously presented) A method according to claim 7 and wherein said first oxide layer is approximately 80 angstroms thick.

10. (Previously presented) A method according to claim 7 and wherein said nitride layer is approximately 20 - 150 angstroms thick.

11. (Previously presented) A method according to claim 7 and wherein said second oxide layer is approximately 50 - 150 angstroms thick.

12. (Previously presented) A method according to claim 7 and wherein said forming said second oxide layer comprises consuming a portion of said nitride layer.

13. (Withdrawn) A programmable, read only memory device comprising:

two diffusion areas in a substrate and a channel formed therebetween;

an ONO layer at least over said channel comprising:

a first oxide layer;

a substantially oxygenated nitride layer having a thickness of 100 angstroms or less overlaying said first oxide layer; and

a second oxide layer overlaying said nitride layer,

APPLICANT: EITAN, Boaz
SERIAL NO.: 09/966,754
FILED: October 1, 2001
Page 4

said first and second oxide layers having a thickness that is the same order of magnitude as said nitride layer; and
a gate at least above said ONO layer.